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Published in:
Erkenntnis

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Publisher's PDF, also known as Version of record

Publication date:
1975

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Hubbeling, H. G. (1975). The Meaningfulness of Metaphysics within certain systems. *Erkenntnis*, 9(3), 401-409.

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H. G. HUBBELING

THE MEANINGFULNESS OF METAPHYSICS WITHIN CERTAIN SYSTEMS

In reacting to my little book *Language, Logic and Criterion* (Amsterdam-Assen, 1971) Dr Barth sets forth some fundamental problems in philosophy. They are very important for every attempt to treat traditional philosophical problems with the help of modern logical methods. I would be very glad to make the following small contribution to the discussion. First of all I should like to make the main purpose of my book clear. According to me there is not one unique system in philosophy. Not only in the trivial sense that each philosopher has his own system, but also that there are many systems of logical empiricism for each philosopher individually. These systems vary according to the strength and strictness of their logical and empirical presuppositions. In a first preliminary approach we may state that the strictness and strength of each system are in an inverse proportion to each other, i.e. the stronger a system is (i.e. the more one can prove in that system), the less strict it is and vice versa. So one has e.g. systems based on intuitionistic logic, on classical logic, on dialectical logic, etc.; systems with and without modal logic; systems in which a reference to mystical experience is permitted and systems in which this is not so, etc.¹ So any answer to a philosophical question can only be given within a certain system. With the help of this method of admitting a variety of systems one can try to give as strict a foundation to each answer as possible. Whether one will commit oneself to a certain answer is another question. Of course, the stricter a system is, the better, but on the other hand: the more a system can explain the better it is. The strictest systems must leave many problems untouched. Whether metaphysics is possible depends on the system that is used. I hope to have shown in my book that these systems are respectable (i.e. that they have a sufficient degree of plausibility), but I do not pretend that I can prove that metaphysics is possible in every system. Where in the hierarchy of systems the 'respectable' systems (i.e. the systems with an acceptable degree of plausibility) ends and the doubtful systems begin is a matter of personal and/or common decision. A common decision is made by a

group of scientists or philosophers. It also depends on the cultural and historical situation in which one lives.

The advantage of this method is that one acquires a clear insight in the presuppositions of the various answers and theories in philosophy. This method is also relevant to a logical reconstruction of philosophical arguments in the past. It may lead to a fair discussion.

Now I should like to answer Barth's critical and important questions. As far as I can see they consist of the following two problems:

(1) Is modal logic necessary in every meta-language of a non-modal logic?

(2) Can we give a meaning to the concepts 'metaphysical entities' and 'metaphysically possible worlds'?

As to the first question my standpoint quoted by Barth stemmed from the following considerations. Systems without modal logic are of course stricter than systems with modal logic, provided they do not differ in other respects also. My remark was intended to make modal logic respectable in the eyes of those who thought modal logic irrelevant to philosophy. According to my opinion one needs modal logic in order to give a foundation to ordinary non-modal logic, for modal logic is, at least in a certain approach as we shall see, required in the meta-language of the non-modal logic. And this is important, if one wants to make use of modal logic so as to solve traditional philosophical problems. Barth's reference to model-theory does not refute my argument, for I used this in a more syntactical approach. In this approach the semantic concepts in the meta-language are restricted to the notions 'true' and 'false'. And in such approach a reference to modal logic is needed for a foundation of ordinary non-modal logic as is shown also by the quotations brought forward by Barth. The model-approach is not a contradiction of this. "A *wff* *S* is valid if it is valid with respect to every model"² is synonymous with "A *wff* *S* is valid (true) in all possible worlds" which is a customary semantic interpretation of the modal logical expression "A *wff* *S* is necessarily true". Besides, if I am not permitted to use modal logic, but I may refer to model-theoretical notions like 'possible worlds', I might also give meaningfulness to certain metaphysical statements. I can very often prove the same statements with the help of set theory (used in model theory) as with the help of (modal) logic. I think one of the main dividing lines between those systems that permit metaphysical statements (when proper

additional premises are added) and those that deny this possibility is that between classical (modal) logic or classical set theory (i.e. set theory with one of the following principles: (i) the axiom of choice, (ii) the axiom of well ordering (Zermelo's axiom), (iii) Zorn's lemma, which are inferable from each other) on the one hand and intuitionistic logic and set theory on the other hand, provided that the systems do not differ in other respects. Elsewhere³ I gave e.g. a new logical reconstruction of the cosmological proof of God's existence within a modal logical system S_5 , but also in classical set theory. Of course this proof has some presuppositions that might be questioned. The main presupposition is the multiple application of the rule 'ex nihilo nihil fit' (or every state of affairs must have a sufficient ground in the Leibnizian formulation; every state of affairs must have a necessary or a necessary and sufficient ground in a modern logical formulation). We will come to this in a moment. But I would emphasize that I do not pretend to have given a 'definite' proof, I only wanted to give a proof with the strictest possible presuppositions. And I hope to have shown that these presuppositions are respectable. But it is always possible to use stricter systems in which the proof is not valid.

Even more important is Barth's challenge to give a meaning to metaphysical entities and to metaphysically possible worlds. I think that her challenge is justified and I shall try to answer it. In this, I suppose that the meaning of a sentence or a word can also be determined by what can be inferred from it. Thus in intuitionistic logic the negation-sign ' \neg ' (e.g. in ' $\neg p$ ') means something else than in classical logic, because in classical logic we can infer ' p ' from ' $\neg(\neg p)$ ', which we cannot in intuitionistic logic. Or, in a purely philosophical context: the word 'decisive' in the expression "the moment in time has a decisive significance" has in Kierkegaard⁴ not the same meaning as in Marxist philosophy, because Kierkegaard draws quite different conclusions from it. Barth defends in her excellent book *The Logic of the Articles in Traditional Philosophy* a similar position.⁵ Therefore the meaning of words and sentences also depends on the system in which they are used. So in the strictest systems no meaning can be given to metaphysical entities like God, perfect being, etc. In the systems in which I speak metaphysically (about God, etc.) I make a multiple use of the rule mentioned above ('ex nihilo nihil fit'), i.e. applying it within systems and to systems as a whole in their relation to other systems. Using this rule (for the way in which this is done I must

refer to my book and to the article mentioned in note 3) we must postulate God as necessary being, i.e. a being present in all possible worlds that can be thought of. And vice versa: if I use the word 'God' as 'necessary being' meaningfully, I can infer the multiple validity of this rule.

But whether one chooses to accept the multiple use of this rule is a different matter. Of course, systems including modal logic, but not including this rule are certainly possible. Although I do not exclude beforehand that metaphysics is possible in the latter systems also, this is not the way in which I have done it. Of course, one can have one's doubts with respect to the multiple validity of the rule '*ex nihilo nihil fit*'. But on the other hand one can easily show that the application of this rule (in this or some synonymous formulation⁶) can help to solve some problems in inductive logic. As far as I can see we cannot build up a system of predictable processes for the purpose of checking hypotheses without presupposing the multiple validity of this rule both for the processes within the system and for the system as a whole. (i) Every change in the system must have a cause and (ii) the set of causes with which we operate to explain the changes (the system as a whole) is to remain the same during our predicting and checking. Both (i) and (ii) are applications of the rule '*ex nihilo nihil fit*', and this is also the way in which the rule is used in my reconstruction of the cosmological argument. So I think the rule in question is at least respectable. On the other hand I do not exclude that the problems of inductive logic can be solved otherwise. I would by no means pretend that the 'case of metaphysics' is settled once and for all. I do not try to make metaphysical statements irrefutable. But they must be refuted in their own way. It is unfair and illogical to require that metaphysical statements (as meta-language statements) must be refutable by way of experiment, i.e. in an object language. Of course, a meta-language can contain words referring to objects, but in that case their function is different, just as (in another approach) a predicate of a higher type may have the same form as that of a lower type, as e.g. the ' φ ' in ' $\varphi(\varphi x)$ '.

Barth's criticism of my attempt to strengthen Hartshorne's version of Anselm's ontological argument with the help of Peirce's law is correct. I tried to reduce the presuppositions of Hartshorne's ontological argument to the premise that it is possible to speak of the necessity of a perfect being or in other words: that the concept of a perfect being is not self-

contradictory. I did not and do not pretend that it is possible to prove that this is so with presuppositions that are beyond all doubt. We will come to this in a moment. Hartshorne also used the so called Anselm's principle ' $q \Rightarrow Lq$ ' (q strictly implies Lq , where ' q ' means "There is a perfect being" or "perfection exists"). I tried to use Peirce's law in order to make the validity of this principle dependent on the question mentioned above, viz. the meaningfulness of the concept of a perfect being. For if the concept of a perfect being is meaningful, it is at least logically possible and thus Hartshorne's argument becomes valid. I give now Hartshorne's well-known argument in the following lines, using a modern notation.⁷

- (1) $q \Rightarrow Lq$ 'Anselm's principle': perfection could not exist contingently.
- (2) $Lq \vee \neg Lq$ Excluded middle.
- (3) $\neg Lq \Rightarrow L\neg Lq$ A law in S_5 .
- (4) $Lq \vee L\neg Lq$ Inference from 2 and 3.
- (5) $L\neg Lq \Rightarrow L\neg q$ Inference from 1: modal form of transposition.
- (6) $Lq \vee L\neg q$ Inference from 4 and 5.
- (7) $\neg L\neg q$ The concept of a perfect being is not self-contradictory and thus at least logically possible. According to me this step should be considered as an added premise. Hartshorne justified this step as an intuitive postulate or as a conclusion from other theistic arguments.

- (8) Lq Inference from 6 and 7.
- (9) $Lq \Rightarrow q$ Modal axiom.
- (10) q Inference from 8 and 9.

Barth is, however, completely right in pointing out that

- (1) $((q \Rightarrow p) \rightarrow q) \rightarrow q$, i.e. $(L(q \rightarrow p) \rightarrow q) \rightarrow q$,

is not a law in S_5 and therefore not in any of the other, stricter modal systems. In preparing my answer I investigated, whether

- (2) $(q \Rightarrow p) \Rightarrow q \Rightarrow q$, i.e. $L(L(L(q \rightarrow p) \rightarrow q) \rightarrow q)$,

is a law in S_5 . But using the method of the modal conjunctive normal form⁸ we can reduce (2) to:

- (2') $(L(\neg q \vee p) \vee Lq) \& (Lq \vee M\neg q)$, [(2') is equivalent to (2)].

Now the second part of the conjunction is a logical tautology, but the first part is not and so (2) is not a law in S_5 . Now we can try to acquire some

'modal Peirce's law' by changing ' $L(\neg q \vee p)$ ' in (2') into ' $M(\neg q \vee p)$ ':

$$(3') \quad (M(\neg q \vee p) \vee Lq) \& (Lq \vee M\neg q).$$

From (3'), which is a tautology in S_5 , we can 'work back' to formula

$$(3) \quad (M(q \rightarrow p) \Rightarrow q) \Rightarrow q, \text{ i.e. } L(L(M(q \rightarrow p) \rightarrow q) \rightarrow q).$$

As (3) is equivalent to (3'), (3) is now a theorem in S_5 .

But we have no use for this theorem in Hartshorne's proof. ' $M(q \rightarrow Lq)$ ' is now a very weak premise; as a matter of fact it is already a theorem in S_5 . But if we use ' $M(q \rightarrow Lq)$ ' as step 1 in Hartshorne's proof, step 5 is no longer possible. But another 'modal Peirce's law' is valid in S_5 :

$$(4) \quad ((q \rightarrow p) \Rightarrow q) \Rightarrow q, \text{ i.e. } L(L((q \rightarrow p) \rightarrow q) \rightarrow q).$$

For (4) is equivalent to

$$(4') \quad M(\neg q \vee (p \& \neg q)) \vee Lq,$$

which is a theorem in S_5 . So if in Hartshorne's proof we change the strict implications into ordinary (material) implications we can again make 'Anselm's principle' dependent on the meaningfulness of the concept of a perfect being. For if we add the meaningfulness of $q(Mq \text{ or } \neg L\neg q)$ to the premises of Hartshorne's proof, we can infer q from ' $q \rightarrow Lq$ ' and so claim that we have proved

$$(5) \quad (q \rightarrow Lq) \Rightarrow q, \text{ i.e. } L((q \rightarrow Lq) \rightarrow q),$$

thereby changing an inference into a strict implication. From (5) we can infer ' q ' according to 'modal Peirce's law (4)'. The term 'modal Peirce's law' is by the way introduced here and is not a commonly accepted term as far as I know.

If my operating with the 'modal Peirce's law' is not accepted, we must presuppose two premises in Hartshorne's proof: viz. the meaningfulness of the concept of a perfect being and the truth of ' $q \Rightarrow Lq$ '.

But whatever the meaning and relevance of all this is, it does not discharge me from Barth's requirement to give some meaning to the concept of a perfect being. And there the main difficulty arises. I do not think it can be done beyond all doubt, but the best way seems to me the following.

We presuppose that all complex states of affairs can be analysed into elementary states of affairs and that we can ascribe to every elementary

state of affairs a degree of desirability (goodness if you like). Now every elementary state of affairs might cause other states of affairs. So besides its own intrinsic degree of desirability every state of affairs has also a derived degree of desirability, that can be computed in a *D*-calculus.⁹ So we can, at least in principle, have an absolute degree of desirability that is computed from the intrinsic and the derived degrees of desirability of each elementary and complex state of affairs. We can compare the absolute degree of desirability of each state of affairs with its negation: $D_{\alpha}p$ and $D_{\beta}\neg p$, where the indices under *D* (α and β) indicate the respective degrees of desirability.

Now a perfect being may be defined as that being that produces *p* if $\alpha > \beta$ and $\neg p$ if $\alpha < \beta$, if it is in its power to produce either *p* or $\neg p$. If we identify this perfect being with God we must still maintain the clause 'in its power', because God cannot produce logical contradictions, but if we add a proper definition of God's almightiness, we may omit this clause.

All this might seem plausible at first sight and I will not deny that it has at least some plausibility. But we have presupposed:

- (i) that there is a hierarchy of desirabilities (hierarchy of values);
- (ii) that there is a complete knowledge of all causal relations between all states of affairs;
- (iii) that our *D*-calculus is correct.

Now (i) is not commonly accepted, but one can give many arguments for it and it is at least held also by some atheistic philosophers. A further difficulty is that the order of the hierarchy of desirabilities is not a total (linear) order, but a half order. In other words: there are incomparable desirabilities. We might solve this problem in two ways: either (1) we might weaken the concept of a perfect being in that it is not always possible (even not for this being) to choose between *p* and $\neg p$; or (2) (which I would prefer) we presuppose a function that maps the original hierarchy of desirabilities onto a new hierarchy that is a totally ordered set. This is by the way normal ethical practice, as we very often have to give an order of priority to incomparable things. The difference is that a perfect being might know this mapping function, whereas we only guess it.

Thus (i) and (ii) presuppose the concept of an all knowing being, to which it is at least in my opinion less difficult to give a meaning than to the concept of a perfect being. The 'ideal observer' is anyway a well-known construction in many an argument. Perhaps better defining de-

scriptions of the concept of a perfect being might be possible, but I do not see them at the present moment.

I hope that the purpose of my 'logical reconstructivism' is clear, viz. to give a defence of certain arguments that is as strict as possible. Here I have done this for certain metaphysical approaches without pretending that the problems dealt with are definitely solved. Neither do I hold that metaphysical problems must be solved first before other (philosophical or scientific) problems can be dealt with, the mistake of so many a traditional philosopher. Whether traditional philosophers are pleased with my defence, I am not sure. They usually consider my approach too sceptical, which it probably is. But I think in this way a fair discussion is possible in which arguments can be defended and refuted. But of course it remains true what I often say to my students: the only thing you can be sure of in philosophy is an inference within a system.

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NOTES

¹ Of course the relation between strictness and strength is more complicated than is sketched here, because the strength of a system does not only depend on rules of inference and axioms, but also on rules of meaning. But given the same set of primitive meaningful statements in two different systems our thesis of an inverse proportion between strictness and strength will hold. Another objection to this thesis may stem from the consideration that the addition of one or more axioms may change an inductive proof into a deductive one, thus making the proof more strict. To this I might answer that in that case the proof is certainly more exact, but the system as a whole not more strict, thus perhaps limiting the use of the concept 'strict'. Moreover, according to my opinion all inductive reasoning presupposes deductive schemata of inference (see e.g. my remarks in a review of Barth's book mentioned in note 5 in *Algemeen Nederlands Tijdschrift voor Wijsbegeerte*, 65e jrg., afl. 3, juli 1973, p. 203ff).

² I. Copi, *Symbolic Logic*, 2nd edition, London, 1965, p. 308. Mrs Barth quotes the third edition (p. 314).

³ H. G. Hubbeling, 'Logic and Experience in Spinoza's Mysticism' in: J. G. van der Bend (ed.), *Spinoza on Knowing, Being and Freedom*. Proceedings of the Spinoza Symposium at the International School of Philosophy in the Netherlands (Leusden, September 1973), p. 142f (note 16).

⁴ 'Øieblikket in Tiden have afgjørende Betydning' (S. Kierkegaard, *Philosophiske Smuler*. Udgivet med Indledning og Kommentar af Niels Thulstrup, København, 1955, p. 11ff; English translation *Philosophical Fragments*, transl. by D. Swenson, rev. by H. V. Hong, London, 1969, p. 16ff.)

⁵ Cp. E. M. Barth, *The Logic of the Articles in Traditional Philosophy. A Contribution to the Study of Conceptual Structures*, Dordrecht, 1974, p. 84ff. (A translation of E. M. Barth, *De logica van de lidwoorden in de traditionele filosofie*, Leiden, 1971).

⁶ Cp. for a discussion of this rule and some of its synonymous forms: A. McKinnon, *Falsification and Belief*, The Hague/Paris, 1970 p. 28ff.

⁷ Cp. C. Hartshorne, *The Logic of Perfection and other Essays in Neoclassical Metaphysics*, Lasalle (Ill.), 1962, p. 51.

⁸ G. E. Hughes and M. J. Cresswell, *An Introduction to Modal Logic*, London, 1968, p. 54ff; p. 116ff.

⁹ Cp. H. G. Hubbeling, 'Zijn ethische uitspraken wetenschappelijk fundeerbaar? Enkele opmerkingen over de wetenschappelijkheid van de ethiek', in *Tijdschrift voor Filosofie*, 33e jaargang-nummer 1-maart 1973 (p. 41-65) p. 60ff.